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The Critical Juncture

Summary of Third
and Final Report

Realization of the
Educational and
Career Intentions
of Grade 12
Students in Ontario.

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PREFACE

The initial survey in the Spring of 1973, and the follow-up surveys in November 1973 and November 1974, were carried forward under the auspices of the Ministry of Colleges and Universities in Ontario. The Survey Research Centre of York University deserves a special note of gratitude for its able implementation of the three projects. Mr. Oleh Iwanyshyn wrote the methodological appendices for all three reports and should be congratulated for his diligence and competence.

Mr. Lance Mitson was my research assistant and aided me in analysing the follow-up data for Phase Three. I would like to thank Lance for his efficient assistance and capacity for focusing attention on analysis problems. Mr. Peter Lewycky of the Ministry also deserves a note of thanks for his close scrutiny of my draft report. Ms. Alison Hegarty, also of the Ministry, was continually helpful and efficient in her role as project co-ordinator. Mrs. Audrey Robinson continues to earn my gratitude in that she has helped enormously in the typing of this manuscript.

The primary credit for such helpful information that may be contained in this study is directly attributed to the enthusiasm and co-operation of the high school staff and students, who generously volunteered their time and thought in providing research data. We hope that the results reported will prove interesting and profitable to them.

Although this study is being published under the auspices of the Ministry of Colleges and Universities, the views expressed are solely those of the author.

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September 1975

NOTE

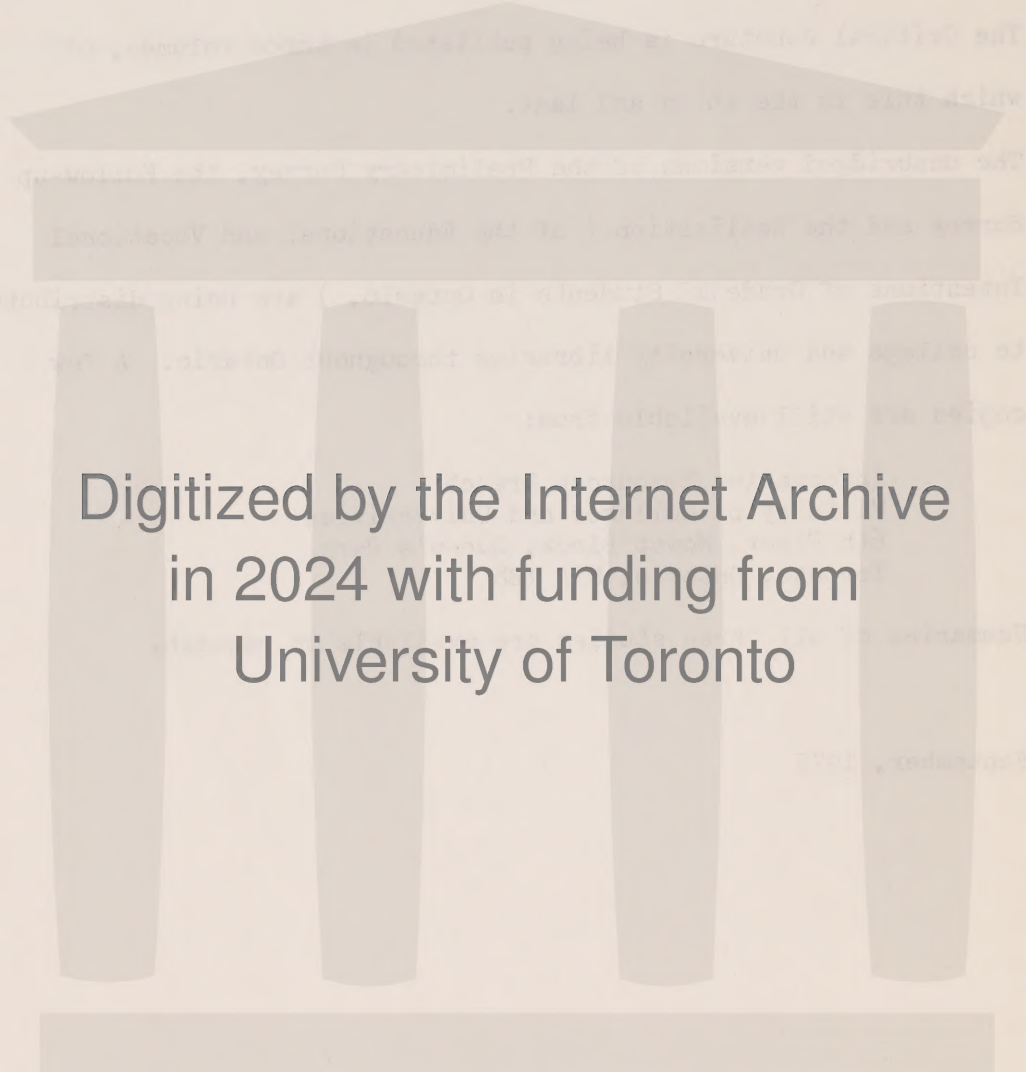
The Critical Juncture is being published in three volumes, of which this is the third and last.

The unabridged versions of the Preliminary Survey, the Follow-up Survey and the Realization (of the Educational and Vocational Intentions of Grade 12 Students in Ontario,) are being distributed to college and university libraries throughout Ontario. A few copies are still available from:

Information Resources Branch
Ministry of Colleges and Universities
6th Floor, Mowat Block, Queen's Park
Toronto, Ontario, M7A 1B8

Summaries of all three studies are available on request.

September, 1975



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INTRODUCTION

The Problem

In the Spring of 1973 we conducted a survey of Grade 12 students in Ontario. Our objectives were fairly straightforward: we simply sought to develop profiles of adolescents who appeared to possess different types of plans.¹ The profiles developed in this first phase of the survey did indicate marked differences. Those students who planned to enroll in universities at some future date tended to be male, rank high on social class background, come from urban areas in Ontario, believe they possessed the ability to graduate from university (and had the grades to back up this claim). They also possessed higher occupational aspirations than students with other types of intentions. Thus, it seemed valid to say that adolescents define their situations not in some arbitrary manner but in terms of their social origins, place of residence, experiences and performance in high school.

A decision was made to continue the survey so that we could further expand and clarify the rough profiles we had developed. Moreover, we knew that a panel survey would afford us an opportunity for evaluating the validity of an "intentions" survey. Although we were cognizant of the possibility that any number of factors might lead to discrepancies between an individual's stated intentions and actual behaviour, no panel

¹ Paul Anisef, The Critical Juncture, Educational and Vocational Intentions of Grade 12 Students in Ontario. (preliminary study), Ministry of Colleges and Universities, 1973.

survey had been implemented in Ontario that focused on this particular problem. This problem was explored in a follow-up telephone survey in November 1973. We discovered, at that stage, that an intentions survey is relatively good for forecasting aggregate behaviour but a relatively poor means of predicting individual behaviour. Within six months, 22.3% of Phase Two respondents were participating in activities that differed from the plans they voiced in Spring 1973.² Although nearly a quarter of all individuals in the Phase Two survey altered their decisions, there were minimal aggregate differences with respect to the proportions entering Grade 13 or Colleges of Applied Arts and Technology.

An intriguing question also arose after we found that more than a fifth of all respondents behaved in a manner that was essentially inconsistent with what they reported to us in Spring 1973. Are adolescents who act in accord with originally stated intentions different than "inconsistent" adolescents? Our analysis revealed that there were differences in that the former, consistent, group were more likely to: (1) Come from urban areas of Ontario. (2) Be in smaller families where they are positioned at the low end of the ordinal structure (that is, more likely to be first born in the family) (3) Have more prestigious socio-economic origins (4) Receive greater encouragement to continue higher studies (5) Achieve higher grade point averages and possess more favourable self-evaluations concerning their abilities (6) Possess greater expectations and aspirations concerning their future occupational roles.

² Paul Anisef. The Critical Juncture, Follow-up Survey, Educational and Vocational Intentions of Grade 12 students in Ontario, 1974, p. 120.

CHAPTER FIVE

Summary and Conclusions

Summary

Objectives of second follow-up report

A telephone survey of former Grade 12 students conducted in November 1974 constitutes the third and final phase of a panel survey. Most respondents who were Grade 12 students when we first initiated the study in Spring 1973 were, in Fall 1974, studying in a university or community college, working full-time, or engaged in some alternate activity. This phase of the survey was implemented with several objectives in mind. In our first report we developed profiles or descriptions of respondents based primarily on their stated intentions for Fall 1974. Now we possess information that allows us to describe the same people in terms of their actual choices -- not their plans. At the same time we are able to continue our probe and further identify important factors that figure in the decision-making processes of adolescents who must choose among a complex and frequently bewildering assortment of alternatives.

We also sought to continue our investigation of the viable usage of intentions surveys for predicting aggregate behaviours. How reliable are adolescents' stated plans in Spring 1973 as a gauge of their activities in Fall 1974? Moreover, can we develop a classification scheme (employing social and social-psychological information) that adequately predicts at the individual level?

A third objective also involves a continuation of something we began in the second phase of our survey. There we explored the assumption that people who do not act in accord with previously stated intentions are socially and social-psychologically different than people who are consistent with their stated intentions. We continue to analyze these differences in this third report.

Source of the data

Trained interviewers of the Survey Research Centre at York University placed telephone calls to all respondents in the Spring 1973 survey. These interviewers were trained to ask a number of questions that pertained to present activities. This process was co-ordinated by a field supervisor employed by the Survey Research Centre. Several steps were taken to optimize the response rate and then after attempting up to four unsuccessful telephone calls, a questionnaire was mailed to the respondent. In addition, and when possible, proxy information was collected. From the original group of 2,555 Phase One respondents, a total of 2,163 responded to Phase Three -- a response rate of 84.7%. If Phase Two is used as a comparative base, the response rate is 92%; while the overall response rate (i.e., people who responded in all three phases) is almost 70%.

Cross-tabulations are based on a weighted sample of 92,734. This weighted sample approximates the target population in Fall 1974 and permits the analyst to adjust for errors or deviations from the sample to the population.

Changes in Educational and Vocational Objectives: Decisions and Behaviours

Several tests for representivity were applied to the Phase Three sample. The effective number of respondents in Phase Three was 1,987 (effective in the sense that these were people who responded to all three phases). We discovered that the Phase One sample and Phase Three sample are essentially similar with respect to sex, family income and father's occupational prestige. Our contention that both samples were drawn from the identical target population (that is, former Grade 12 students in Ontario) received considerable support. Therefore, we may generalize our findings based on the Phase Three sample for the target population.

A number of facts emerge when individual and aggregate changes (changes that refer to a comparison of Phase Three respondents' activities with their intentions in Spring 1973) are analyzed: (1) Within a year and a half, more than 40% of the Phase Three respondents had altered their original intentions for the Fall of 1974 (2) Almost 40% of the Phase Three respondents were discovered to have chosen work roles in Fall 1974. However, only slightly more than 20% of respondents had planned on entering the work force in Spring 1973. This discrepancy is hardly a change of heart by those originally planning on assuming work roles; over 20% of the respondents who were employed in full-time jobs in Fall 1974 had originally planned on alternate activities such as university, community college or part-time studies (3) Over 35% of Phase Three respondents were attending university in Fall 1974; at the aggregate level there is little discrepancy between initial decisions and actual behaviours, in that nearly 38% had originally planned to enrol in a university.

At the individual level there is a sizeable change, since almost 10% who intended on enrolling eventually chose other alternatives (e.g., 4% took jobs) (4) Over 14% of Phase Three respondents were enrolled in community colleges in Fall 1974; at the aggregate level, there is an 8% discrepancy, since 22% had so intended in Spring 1973. Of those who initially planned on attending a CAAT, over 6% took full-time jobs and a further 3% opted for university enrollment. Yet it should be noted, that 2.8% of those who enrolled in community colleges originally planned on attending university (5) Less than 2% of Phase Three respondents elected to pursue part-time studies. This is in contract to the 4.6% who originally planned on becoming involved in part-time studies. What's even more interesting is that only 0.2% of the part-time students had originally planned this involvement. Most of the others accepted full-time jobs and most part-time students originally planned on becoming full-time students in either university or community college.

Analysis and Classification: the utility of panel surveys

In this chapter we discussed the advantages and disadvantages of discriminant function analysis for analysing and classifying the current (Fall 1974) behaviour of the respondents in our panel survey. One major objective was to explore the predictive capacity of the social science data we had collected. To what extent does this type of information help us in predicting adolescents' future educational and vocational choices? Since over 40% of the respondents had visibly changed direction since Spring

1973, the use of stated intentions was obviously less than useful in making such predictions. Would other information concerning the background and sociological experiences of respondents enable us to make more adequate predictions?

A detailed technical discussion of discriminant function analysis was offered following which the analysis was employed after respondents were properly classified into five groups: working full-time, attending university full-time, attending CAATs full-time, part-time studies and alternative activities. A total of 12 discriminating variables were employed in the final analysis, after some preliminary work had been performed. We found that the discriminating variables worked best at distinguishing two groups -- "work full-time" and "attend university". "Attend CAAT" and "alternate activities" are two groups that prove to be least distinguishable.

That discriminant function analysis appears to be a powerful device for classifying future behaviour receives support from our analysis. We found that, once a statistical adjustment was made for a gross difference in group size, we were able to correctly classify 64.0% of the cases. With the use of the case's values on the twelve discriminating variables, we were able to correctly classify 64.0% -- the likely group membership of the cases (that is, we had 64.0% success in predicting whether Phase Three respondents would either work full-time, enroll in university or community college, etc.). We also indicated that not all of the assumptions and mathematics of discriminant analysis have been

worked out in this analysis. A proper and wise employment of the technique necessitates the careful attention of experts trained in the areas in which the technique might be applied.

A description of Grade 12 students: one-and-a-half years later

General description of all groups

The labour force, universities and part-time studies attract approximately equal proportions of males and females. Community colleges stand out in this regard in that almost 60% of the respondents who attended in Fall 1974 were female students. Universities clearly attract people who were academically superior in secondary school; almost 70% of the respondents now in university obtained B or higher grade averages in secondary school. Respondents who entered the work force, community colleges or selected an alternate activity fared relatively worse with reference to grade averages.

University students in our sample apparently enjoy an advantaged background in that a greater proportion of their fathers (60% of the fathers) managed at least to complete high school. Fewer than 40% of the fathers of working respondents can make a similar claim.

We also found that the social networks of respondents reflect or influence their present activities. Thus, university students primarily associated with friends who also planned on attending university and respondents who entered the labour force after high school also tell us that the majority of their friends made comparable decisions.

A strong association between present activities and certain types of social-psychological variables was located. For instance, we discovered that parental expectations concerning their childrens' future education play an influential role with reference to adolescents' present activities. Thus, 90% of the respondents currently in university believed that their parents expected them to attain a B.A. or higher degree; only 20% of the working respondents claimed their parents expected them to obtain B.A.'s or higher degrees.

Respondents vary in their perception of how much their parents encourage or discourage them in continuing their post-secondary education. As we might suspect, respondents now in university or community college were much more likely than working respondents to perceive their parents as strongly encouraging.

Even before becoming university students, respondents who were to choose this course were quite confident of their ability to graduate from university. Their confidence exceeded that of respondents who eventually entered the labour force or attended community colleges. Both university and CAAT students were also confident (more confident than respondents who chose alternative activities) of their ability to graduate from community college.

Working respondents

Many adolescents who assume full-time work roles do so for non-career reasons. Thus, more than 40% do so in order to "avoid school",

"provide time for decision" or because they "decided not to continue their education".

Few graduates encountered problems in locating their first job; only 9.3% reported that they had problems in locating jobs. Respondents work an average of 33.1 hours per week at moderately prestigious jobs. Very few, in fact, obtained highly prestigious jobs. This is not to say that respondents who entered the labour market are unhappy in their jobs. On the contrary, 80% reported that they were either satisfied or very satisfied with their present work roles. Fewer than 10% informed us that they were dissatisfied.

University and community college respondents

University or community college is a full-time affair for most former Grade 12 students. Less than 4% of university and CAAT students attend on a part-time basis. Their reasons for attending vary but the majority are there either to optimize their own "self-improvement" for particular programs or because they visualize "financial rewards" as an eventual pay-off for completing their studies.

Students rely heavily on parents, savings from summer work and government loans and grants to finance their studies. After comparing students' intended financial source with actual sources we discover that proportionately fewer respondents relied on parents than planned and more dug into their summer work savings. Fewer had to rely on

personal savings than they had planned as of Spring 1973.

Students were asked to identify major pressures facing them while completing their studies. It is very interesting to note that almost 40% of the students claimed that they encountered no major pressures. Most of the remaining students told us that heavy academic workloads and grade problems constituted major pressures; only 4.6% specified financial difficulties as a major problem. Of the students who perceived pressures, nearly a third were quite strongly affected by these pressures.

Occupational classification of parents and respondents

In Spring 1973, over half of respondents' fathers were primarily employed in five different kinds of occupations: Managerial and Administrative posts; Sales; Product Fabricating, Assembling and Repairing occupations; Construction; and Farming, Horticultural and Animal Husbandry. Respondents' mothers were involved in very different kinds of jobs; over half were either in Clerical or Service positions.

Over half of male respondents expected in Spring 1973 to enter any of five different types of jobs. But, it is interesting to note, that proportionately fewer sons planned on entering Farming and Sales while proportionately more expected to work in Natural Science, Engineering and Mathematics.

Over 70% of the female respondents expected to enter either Clerical, Medicine and Health, or Teaching positions. Our analysis of male-female occupational differences lead us to conclude that women select from relatively fewer options than men. This is dramatically

illustrated when we look at working respondents in Fall 1974; over 70% of the females and slightly more than 10% of the males were working at Clerical jobs at that time. We also discovered a far greater gap between expectations and aspirations for women than for men. Women would prefer to select from a variety of professional, managerial or artistic occupations but do not realistically expect to do so. For example, 34.5% of women expected, in Spring 1973, to obtain Clerical jobs while only 18.8% specified a desire to do so.

The effects of obtaining a post-secondary education become evident if we assess students' occupational expectations and aspirations. Less than 10% of the female students expect to enter Clerical positions. This is in contrast to 70% of the working respondents who occupied such positions in Fall 1974 and more than 30% who expected to locate such positions when questioned in Spring 1973. The general influence of advanced education is also evident in the expectations of student respondents -- a far greater percentage of these students (in contrast with parents for instance) expect to enter either managerial or professional jobs after completing their degrees. Whether or not these expectations are realistic is questionable.

A profile of consistents and inconsistent

By Fall 1974, well over 40% of the adolescents had altered the decisions they had specified in Spring 1973. This changeability phenomenon, once again, presented the opportunity for us to analyze groups of consistents and inconsistent. We were thus able to re-test the

hypothesis that adolescents' decisions are developed within a knowable context; by gaining knowledge of the context we may better understand why and how these decisions are made. The additional passage of time (in Phase Two the elapsed time was 6 months while in this analysis the elapsed time is 1-1/2 years) also gives us the opportunity for testing the "durability" or "lastingness" of sociological and social-psychological variables.

Our classification procedure resulted in two measures of consistency. One measure relates a person's intention in Spring 1973 with his actual behaviour in Fall 1974; the second measure relates a person's intention in Fall 1973 to his activities in Fall 1974.

A profile of consistent and inconsistent adolescents emerged after our analysis was completed.¹ Consistent adolescents are, generally, more likely than inconsistent adolescents (that is, adolescents who act in a manner not in accord with previously stated intentions) to: (1) Be female (2) Achieve higher standards of academic excellence (3) Come from families where their fathers have obtained higher levels of formal education (4) Possess friends who are more university-oriented than involved in either community college or full-time work roles (5) Perceive their parents as having at least university level (B.A. degree) expectations for them and (6) Express a greater confidence in their ability to graduate from university.

Discriminant function analysis was employed to provide some notion of the relative discriminating power of the variables used in the consistency analysis. We discovered that the rank order in importance of

¹ This profile is based on cross-tabulations using both measures of consistency.

the top three variables is identical for our Phase One-Phase Three and Phase Two-Phase Three consistency analysis. In descending order of importance they are: grades, encouragement - father and parental expectations.²

We also arrived at certain conclusions concerning the influence of "time" in a consistency analysis. Our finding indicated, for instance, that sex is more influential in the short run than the longer run. The influence of encouragement by father, however, is more than twice as strong in the long run than in a short-run consistency analysis. This analysis suggested that, in making choices, adolescents either define or are influenced by a set of considerations. The time-frame surrounding the choice also becomes influential, in that the appropriateness and impact of any one variable or consideration depends on the length of time between a choice and the subsequent implementation or rejection of the choice. Time itself becomes important, in terms of the experiences and situations the individual may encounter or be forced to confront.

Conclusions

In the introduction to this report we raised two questions. They are: (1) Of what practical utility is an intentions survey? (2) What else can be done to best serve various sectors of the population and

² This differs somewhat but not drastically from the results reported in our Phase Two report. The top three variables were: ability to graduate from university, grades and parental encouragement. This ordering applies to the consistency between intentions (Spring 1973) and behaviour (Fall 1973).

educational decision-makers? These questions serve as a focus for our concluding comments.

Our research findings across Phases One, Two and Three definitely indicate that the educational and vocational decisions adolescents make are part of an on-going process. Though situational and chance factors play a role, we can learn quite a bit from knowing something about the sociological and social-psychological composition of an adolescent's environment. Each adolescent encounters and uniquely defines his personal environment and the latter strongly influences the nature and direction of educational choice. We discover, for example, that socio-economic origin, sex, social networks, parental expectations and one's self-conception figure importantly in choosing between working full-time or studying at a post-secondary institution. Through our analysis we also identified the apparent pecking order (in importance) of several discriminating variables. Hence, parental expectations regarding respondents' level of formal education crop up repeatedly as influential factors in choosing between critical alternatives. This, we suggest, is an illustration of one major practical benefit of an intentions survey. Educators who place undue significance or emphasis on schooling and schools may misdirect their energies. When the educational expectations that parents transmit to their children are coupled with emotional support, they act as extraordinarily strong forces in aiding the development of educational and vocational objectives among adolescents. The need to include parents in the educational socialization of the young is thus obvious.

Though we have identified a number of key variables which presumably relate to how decisions are made and who is more likely to select specific alternatives, we suggest that several important questions still remain unanswered. Let us raise and consider a number of these: (1) To what extent have other intentions surveys conducted in Ontario, elsewhere in Canada and in the United States identified similar or different kinds of dimensions in their effort to explain decision-making processes among adolescents? Also, how have these other surveys been employed by governments and/or educators? (2) Although we seem to have identified a number of important variables no real effort has been made (except implicitly) to causally interrelate these variables identified. What theory or theories presently exist that serve to indicate how our variables are causally interrelated? A large literature on educational choice and vocational choice exists and can be related to the data we've accumulated. The task is an important one and does have practical utility. This utility derives from the fact that information such as we have amassed is worthwhile only if placed in perspective. A perspective (i.e., a set of ideas) gives meaning to an otherwise meaningless occurrence. Too often we find that a gulf exists between educators, academics and government officials. Each group may possess a particular ideology and hence find it exceedingly difficult to appreciate and accept the trained capacities of non-group members. Academics who develop specific perspectives or theories are not infrequently accused of being "academic" and even irrelevant. This accusation may be entirely valid

in particular instances. But academics are trained to develop and offer interpretations. If educators and government officials with policy-making responsibilities work in conjunction with academics, then a more holistic and plausible understanding of, frequently, puzzling events could be achieved. Without this co-operation, the rapidity of social change and the complexities that typify our urban society will surely increase the gap between problem identification and the effectiveness of solution(s). (3) It is admittedly true that school systems can play a limited role in re-structuring our society. However, given that many of the key discriminatory variables in our survey were social-psychological (e.g., self-conception) in nature, school agents could have some limited but still powerful influence. To what extent are such agents (e.g., counsellors, teachers) aware, themselves, of how and why adolescents make decisions they make? If we assume that the development of adequate self-evaluation is a process that begins early in an adolescent's life, how do school agents "tune in" and affect the process? Is there any sense of concerted and integrated effort by agents at elementary, secondary and post-secondary levels? (4) Our findings indicate that sex plays an important role in influencing educational and vocational choice. The stark differences in occupational expectations and aspirations among male and female respondents are strong evidence for concluding that feminists have not yet won their battle. How can we explain the fact that educational and vocational choices depend, in part anyway, on sex?

What role do different levels of our school system play in the choices made by male and female students? Do schools generally attempt to combat or support traditional societal expectations concerning the careers of men and women? (5) In another paper we raised the importance of assessing the impact of ethnicity on educational and vocational behaviour.¹ We were able to demonstrate that ethnicity tends to be closely associated with certain characteristics of adolescents (e.g., their place of residence, grade averages). It is largely this association that explains variations in educational and vocational plans. Given that many schools are plagued with problems of how to integrate ethnic minorities into the mainstream of Canadian society, an intentions survey is useful in this, as an analysis can reveal important questions. For instance, what relationships exist between ethnicity and academic achievement? How does a detailed knowledge of a group's culture aid in improving the achievement level of that group?

In addition to raising questions, we wish to recommend several concrete proposals. These general proposals are meant to extend the practical benefits of intentions surveys and focus discussion among interested educators and government officials who are continually responsible for finding effective means that will best serve a heterogeneous audience.

¹ Paul Anisef "Consequences of Ethnicity for Educational Plans Among Grade 12 Students" in Aaron Wolfgang (ed.), Education of Immigrant Students, Issues and Answers, Symposium Series 15, the Ontario Institute for Studies in Education 1975, pp. 122-136

The first proposal involves the use of discriminant function analysis for classifying or predicting future behaviour. This technique is explained in Chapter Two and seems a powerful predictive method. We propose that discriminant function analysis be examined more fully by expert statisticians and forecasters. If such an examination should support its viability as a predictive tool, discriminant analysis should be re-tested on: (1) A fresh sample of Grade 12 students and (2) Groups of people who are presently working, studying full-time, etc. People in these groups should be other than respondents in our panel survey.

The second proposal is linked with our first one. If discriminant analysis proves a highly effective method for predicting behaviour, it can be wisely employed by counsellors in secondary schools. Counsellors, who are made increasingly conscious of the variables employed by adolescents in making educational and vocational decisions, can employ this information in advising students. Certainly guidance counsellors should not impose a classification upon their clients. However, the classification and the variables which compose such classification may stimulate dialogue and challenge both counsellors and students.

This work is an initial first step in analysing the general level of preparedness of adolescents for a variety of roles. What values, attitudes, capabilities and motivations are required for the successful implementation of post-adolescent roles? Furthermore,

what criteria can we and will we use in measuring success? Also, to what extent is "preparedness" a function of individual level considerations? To what extent is "preparedness" a reflection of adequacies or inadequacies on the societal level? For instance, if Student X fails at university, do we attribute this failure to the characteristics of Student X and/or assume that society somehow failed Student X? Obviously, many of the questions already raised in this report involve the problem of socialization for post-adolescent roles. Sex, ethnicity, self-conception, social class etc., are but a few of the dimensions that must be considered and continually studied. As we mentioned previously, there are many works that directly or indirectly address this problem. I would propose that the provincial government set up a research and development agency whose major function would be to consolidate continued research in the general area just described. This consolidation would involve attempts at retrieving and classifying information, co-opting and employing the resources of elementary, secondary and post-secondary institutions. This agency would act to reduce redundancies in research and provide the necessary information for developing important policy decisions. By serving as an information centre, this agency could stimulate additional dialogue and help develop relationships among scattered but valuable personnel in various educational fields.

